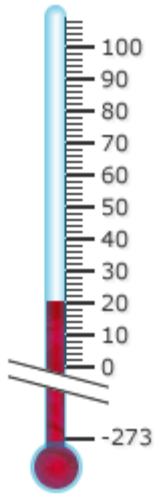


FAHRENHEIT VERSUS CELSIUS

We can measure many magnitudes directly. For example, a length, a weight. We only have to compare the object with our unit of measurement.

Celsius



But we can only measure temperatures by their effects. For example, the expansion of heat produces in a fluid (e.g. mercury) is a way to determine the temperature.

Celsius scale

Our temperature scale is centigrade scale. It comes from the Swedish astronomer Celsius (1742). This scientific took as reference the freezing point of water (0°C) and the boiling point of water (100°C).

Fahrenheit scale

But there is another scale very used in the US. This is the Fahrenheit scale. This unit of temperature ($^{\circ}\text{F}$) was invented by the German physicist Daniel Gabriel Fahrenheit (1724). He was the inventor of the mercury thermometer too.

In summary, the Fahrenheit scale has the new reference points:

0°F : the temperature of freezing point of brine.

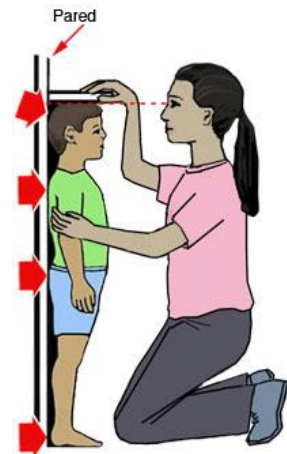
32°F : the temperature of freezing water.

96°F : the temperature of human body –approximately–.

212°F : the temperature of boiling water.

Fahrenheit is used in the United States for everyday applications. For example: weather forecasts, food cooking, and freezing temperatures.

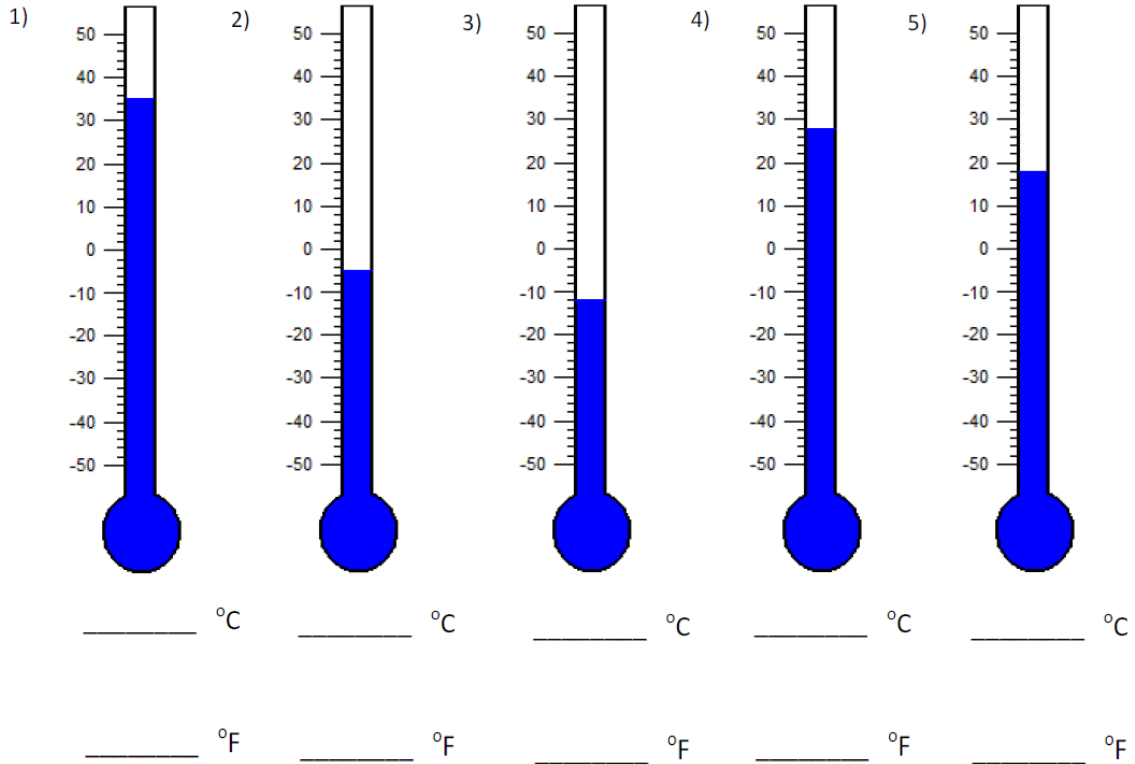
Brine is a mixture of ice, water, and ammonium chloride –a chemical compound– at a 1:1:1 ratio. This mixture stabilizes its temperature automatically in -17.78°C independently of the environment temperature.



FORMULA FOR CELSIUS TO FAHRENHEIT

There is a way to change Celsius or centigrade temperatures into Fahrenheit. The formula is the next: $F = \frac{9}{5} \cdot C + 32$

Write below the thermometer the shown temperature on each. After that, calculate the equivalent Fahrenheit temperature by using the above formula.



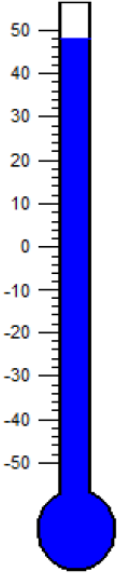
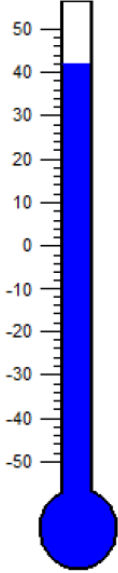
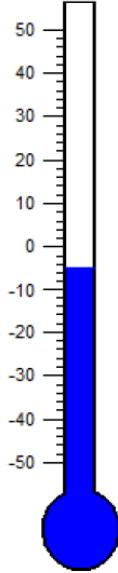
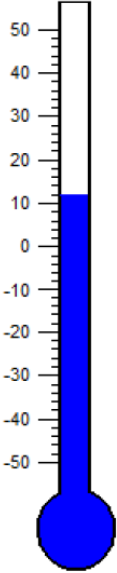
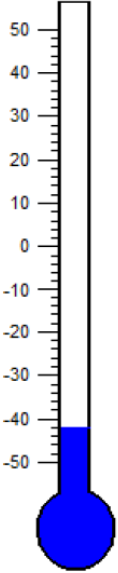
Your operations:

FORMULA FOR FAHRENHEIT TO CELSIUS

Now you see the following Fahrenheit temperatures and you wonder what will be the equivalent centigrade temperature.

There is a way to change Fahrenheit into centigrade. The formula is the next:

$$C = \frac{5}{9} \cdot F - \frac{160}{9}$$

6)		7)		8)		9)		10)	
	_____ °F		_____ °F		_____ °F		_____ °F		_____ °F
	_____ °C		_____ °C		_____ °C		_____ °C		_____ °C

Your operations: